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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,415	11/28/2001	Steven A. Van Slyke	83401RLO	4107

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EXAMINER	
BUEKER, RICHARD R	
ART UNIT	**PAPER NUMBER**
1763	4

DATE MAILED: 07/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

(104) - 4

Application No.	Applicant(s)	
09/996,415	VAN SLYKE ET AL.	
Examiner	**Art Unit**	
Richard Bueker	1763	

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b)

Status

1)☒ Responsive to communication(s) filed on *02 May 2002*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *1*.
4)☐ Interview Summary (PTO-413) Paper No(s). _____
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

Claims 1, 3-6, 15 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Spahn in view of Green and Yamazaki for the reasons stated in the previous office action.

Claims 2, 8-14, 16 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Spahn in view of Green and Yamazaki and taken in further view of Tanabe and Takagi for the reasons stated in the previous office action.

Claims 7 and 12-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Spahn in view of Green, Yamazaki, Tanabe and Takagi, and in further view of Steube for the reasons stated in the previous office action.

Applicants have argued that "Spahn only has one power source for applying potential to the heater. This means that the housing (10 in the Spahn patent) cannot be heated separately from the top plate (20) and the baffle member (30)." This argument refers to the heater design shown in Fig. 6 of Spahn, which shows a bias heater for heating the container 10, and a top plate vaporization heater, both having electrical leads connected to a single power source. It is noted, however, that none of the presently pending claims recite any limitation that would require the claimed bias heater and vaporization heater to be connected to separate power sources, or to be "separately heated" in any other way. Thus, applicants are arguing a limitation that is not in the claims.

The specific embodiment of Spahn's Fig. 6 uses a metal container 10 that is resistively heated by passing an electrical current through its walls. It is noted, however, that Spahn clearly states (col. 4, lines 16-40, particularly lines 33-36) that a

ceramic container can be used in his invention as a substitute for a metal container. Also, both Spahn (col. 1, lines 43-46) and Green (see Figs. 1 and 2) teach that it was well known in the art that such a ceramic container can be heated by a surrounding resistive heater. Since Spahn suggests both the use of a ceramic vaporizer container a the step of providing bias heating for a vaporization container, it would have been obvious from the disclosure of Spahn to use a ceramic container and to provide the ceramic container with a heater in the well known conventional manner as exemplified by Green. Also, since Fig. 6 of Spahn shows the leads for both the vaporization heater and the container heater connected to the same power source, it would have been obvious to connect Green's heater leads (shown in Figs. 1 and 2) to the same power source as the leads of the top plate heater Spahn. As noted above, applicants' claims do not require separate power sources for two heaters.

Applicants have argued that claim 1, part d specifies "means for controllably applying an electrical potential to the bias heater in response to a control signal provided by a bias heater temperature measuring device . . . ". It is noted, however, that this limitation is not contained in claim 1, but instead is recited in part d of claim 2. Part d of claim 1 only recites means to apply bias heat to the container that is insufficient to vaporize the OLED material, which is taught by Spahn.

Regarding part d of claim 2, Tanabe was cited in the rejection of claim 2 to show this limitation. Tanabe discloses a vaporizer for OLED materials that includes (1) a heater to heat the vaporizer container, (2) a temperature measuring device to measure the temperature of the container, (3) a deposition rate measuring device to measure the

vapor flux from the vaporizer, and (4) a controller to control the vaporizer heater. Tanabe discloses a two-step process for using his vaporizer. In the first step, the heater heats the vaporizer to a temperature below the vaporization temperature of the OLED material (see Fig. 3) to dry the OLED material prior to evaporation. (see paragraph 0050 of Tanabe) . This first heating step is controlled according to signals from the temperature measuring device that measures the temperature of the vaporizer container. After the drying step is completed, the controller raises the temperature of the vaporizer to above the vaporization temperature, and then controls the heater according to signals from the deposition rate measuring device. Since Spahn's vaporizer is also intended for vaporizing the same OLED materials as in Tanabe, it would have been obvious to provide Spahn's apparatus with heater control means of the type disclosed by Tanabe. The reason for combining is to provide means for performing a drying step at an intermediate temperature prior to the vaporization step, which Tanabe teaches to be desirable. Since Spahn's heater segments are powered by the same power source, they act together as a single heater as in Tanabe. A vaporization container temperature measuring device as taught by Tanabe would inherently be a bias heater temperature measuring device as recited in claim 2.

Regarding the limitation of claim 2, part e, both Spahn (col. 6, lines 39-42) and Tanabe teach the use of a deposition rate monitor to control OLED deposition. Tanabe in particular teaches controlling the vaporizer heater in response to signals from the rate monitor. It would have been obvious to control the heater of Spahn in response to

signals from the rate monitor, in view of the teachings of Tanabe. This would inherently include controlling the vaporization heater in the top plate 12 of Spahn.

Applicants have argued that Green is non-analogous art. It is noted, however, that Green merely exemplifies the type of heater discussed by Spahn at col. 1, lines 43-46. Analogous art is all art within the field of endeavor, plus any related arts reasonably pertinent to the particular problem addressed by the invention. See *In re* Wood, 202 USPQ 171, and *In re* Pagliaro, 210 USPQ 888. In the present case, the field of endeavor should be considered to be vacuum evaporation coating, and Green is from the field of endeavor. If, however, the field of endeavor is considered to be vacuum evaporation coating of OLED materials, prior art relating to vacuum evaporation coating of other types of materials, such as Green, would be reasonably pertinent to the problem addressed by the invention, which relates to heating of the vapor source.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (703) 308-1895. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Richard Bueker
Primary Examiner
Art Unit 1763

July 8, 2002